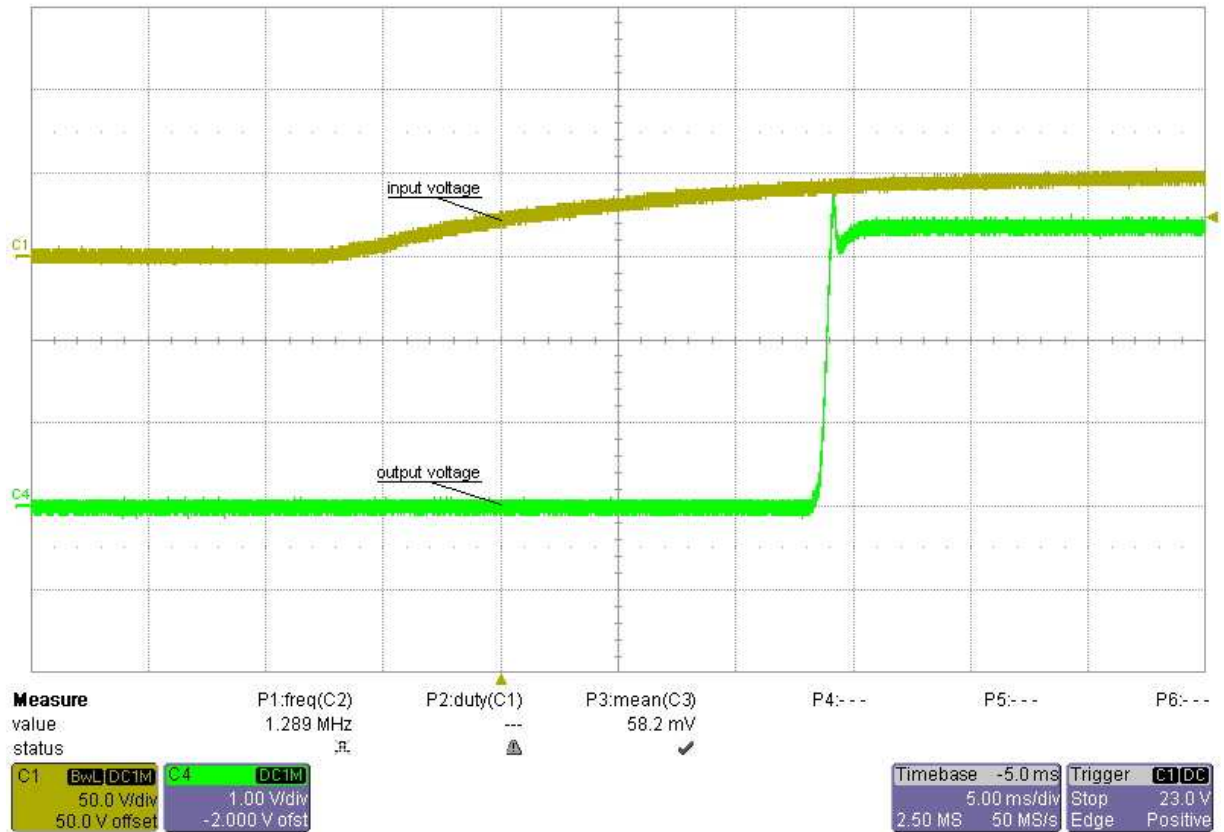


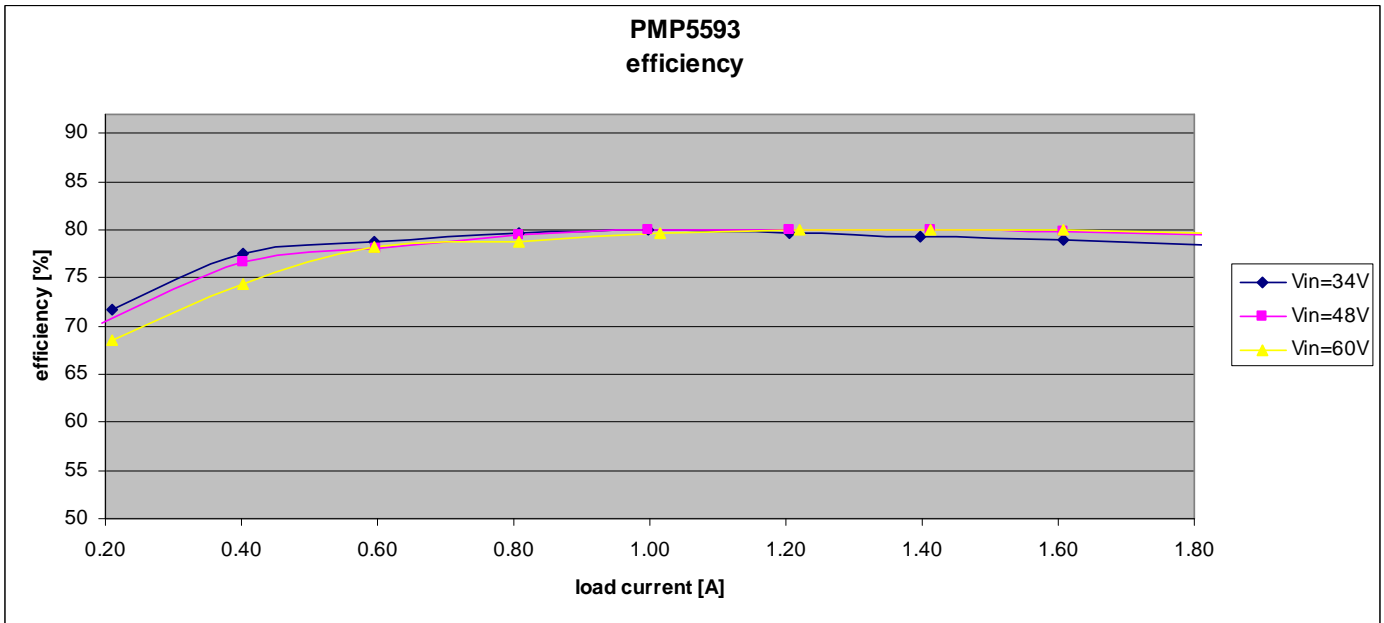
1 Startup

Input voltage: 48V
Load current: 1.8A



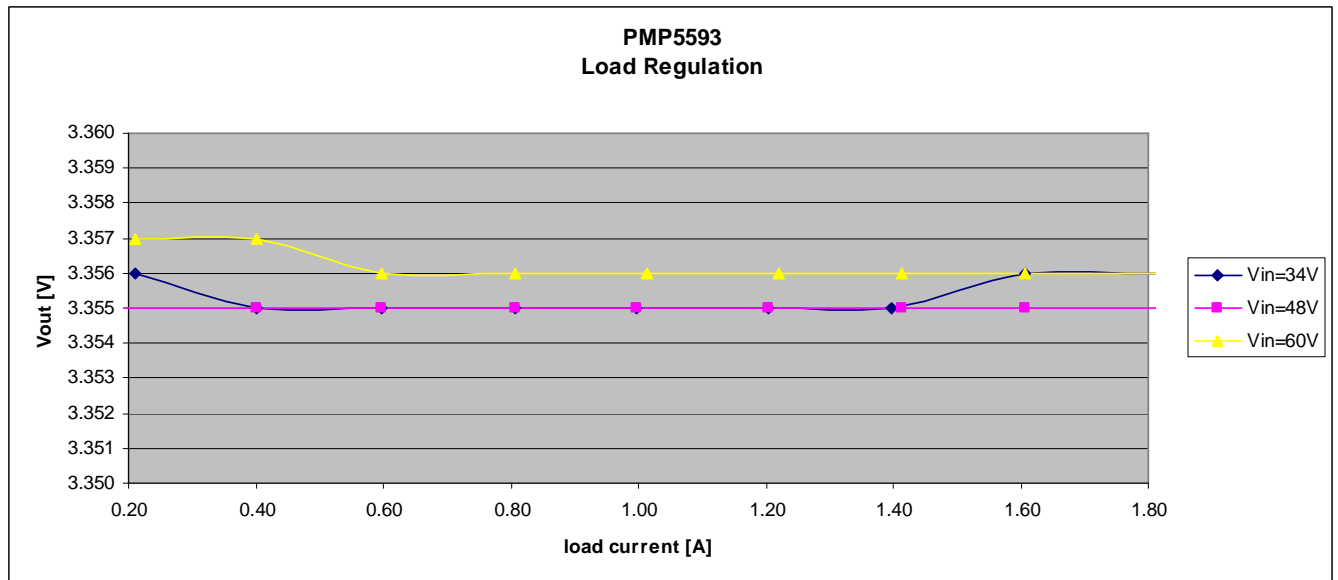
2 Efficiency

The efficiency is shown in the graph below.



3 Output Voltage Regulation

The output voltage versus load current is plotted below.

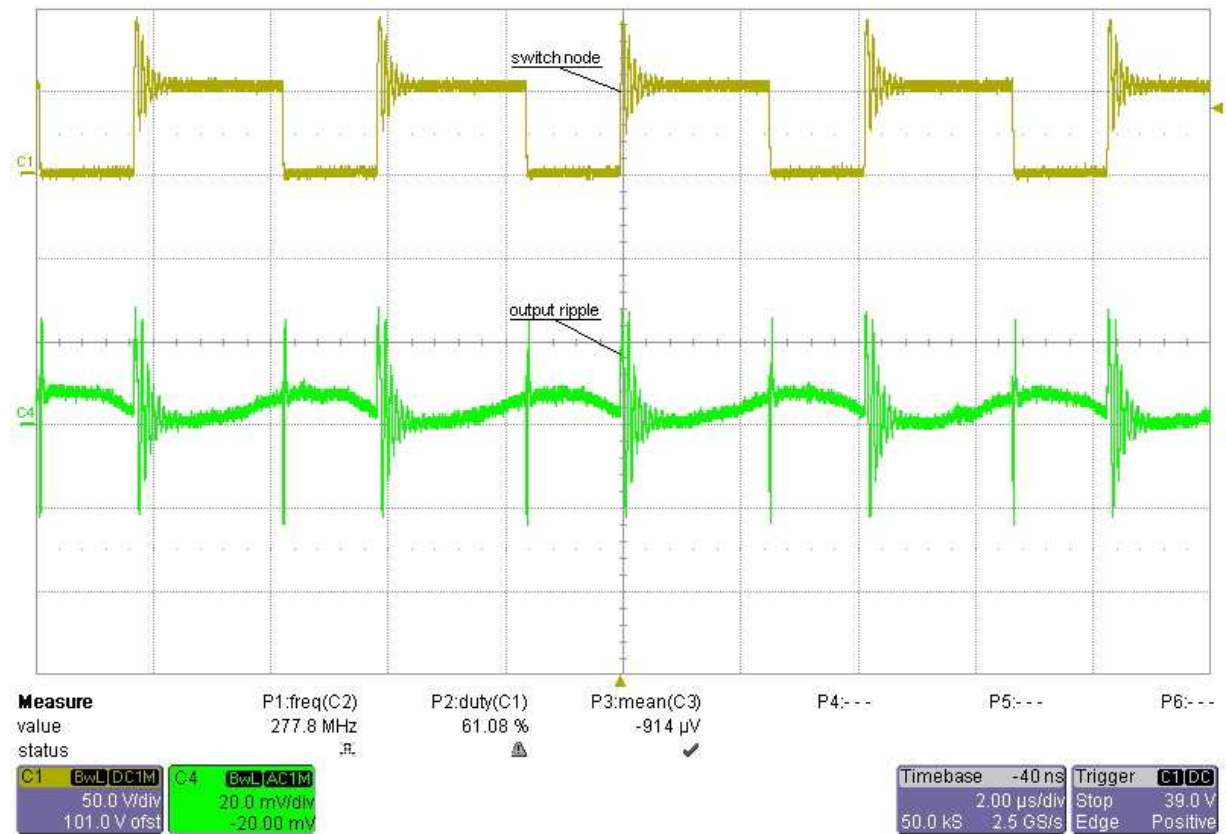


4 Output Ripple Voltage

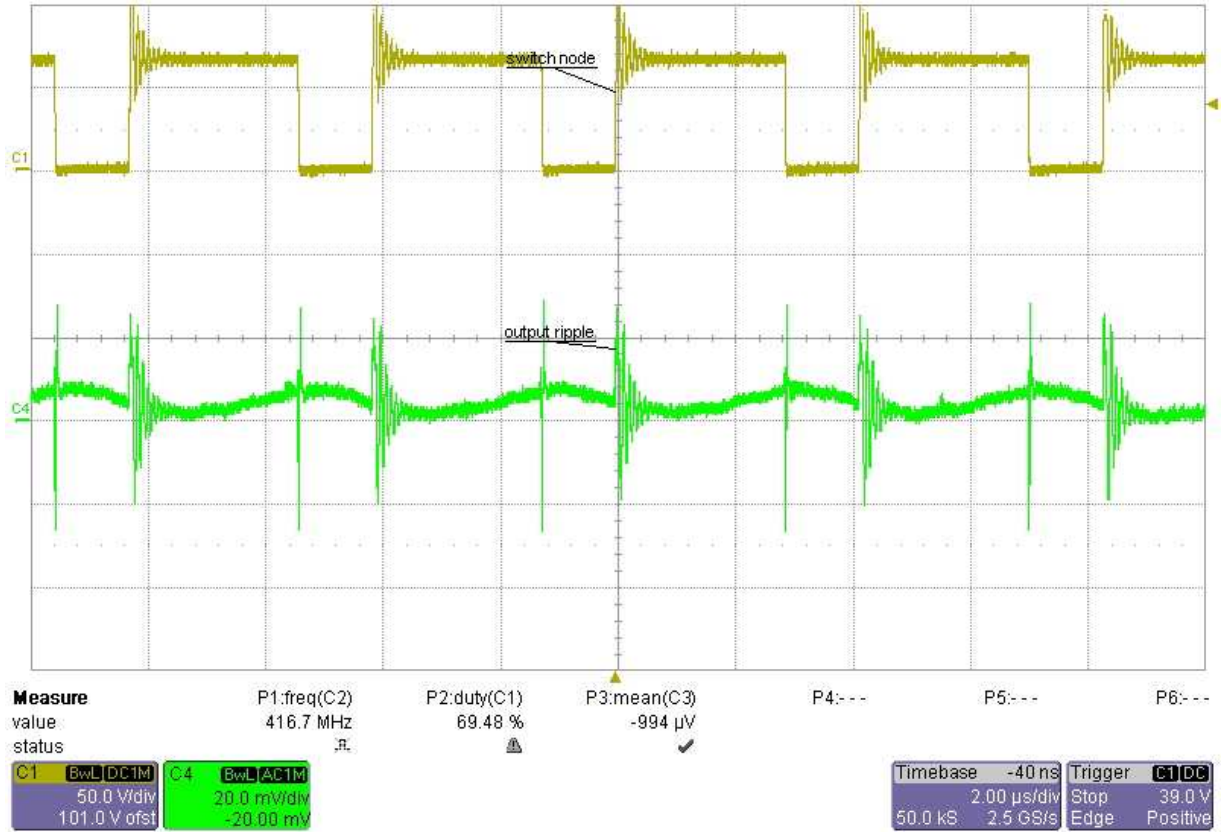
The output ripple voltage is shown in the plots below.

Input voltage: 34V

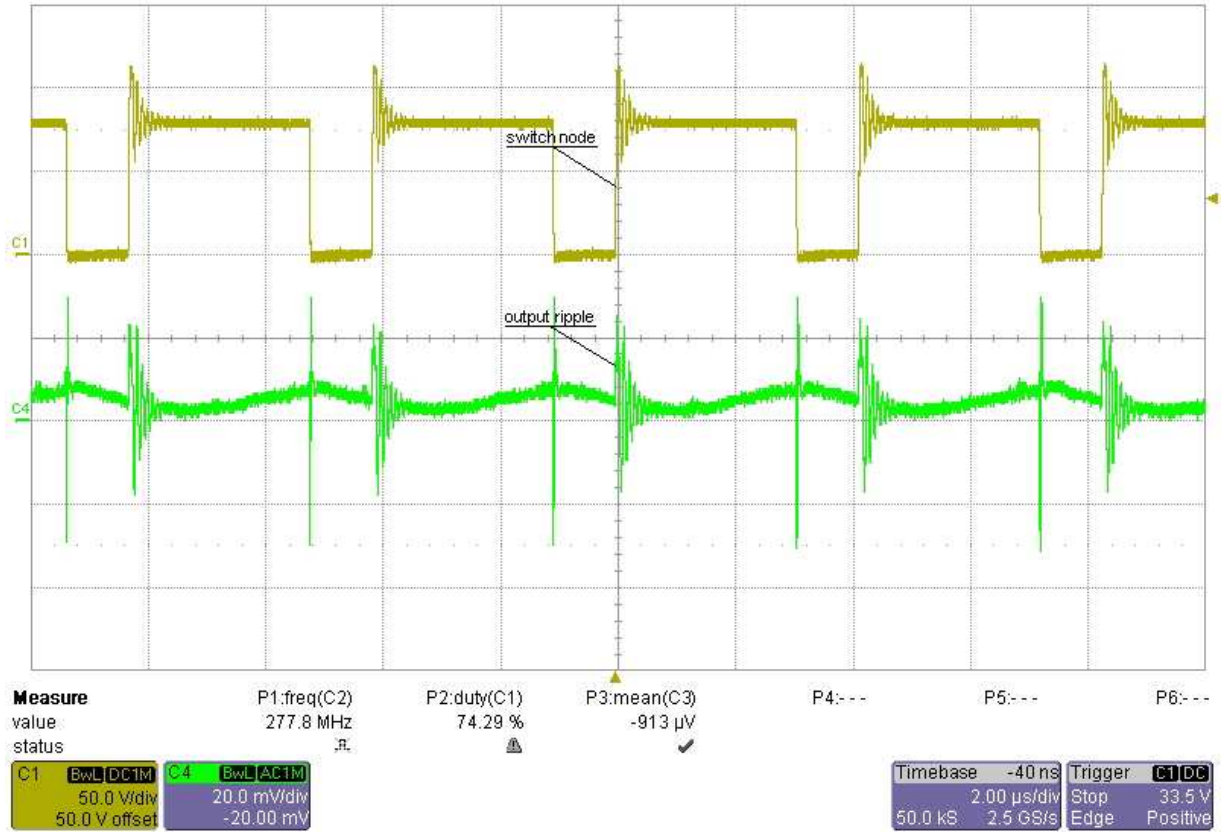
Load current: 1.8A



Input voltage: 48V
Load current: 1.8A



Input voltage: 60V
Load current: 1.8A



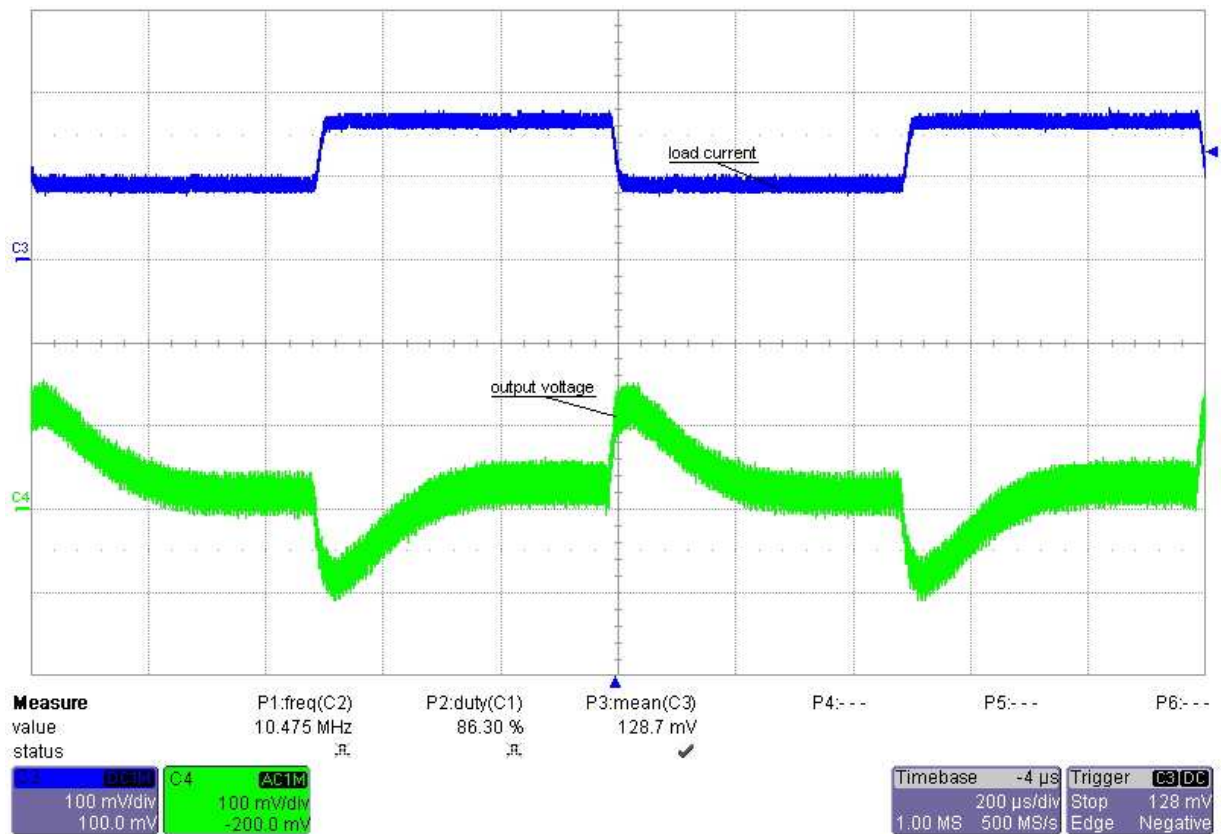
5 Load Transient

The images below show the response to load transients on the output voltage.

Input voltage: 34V

Load current: 0.9 to 1.8A

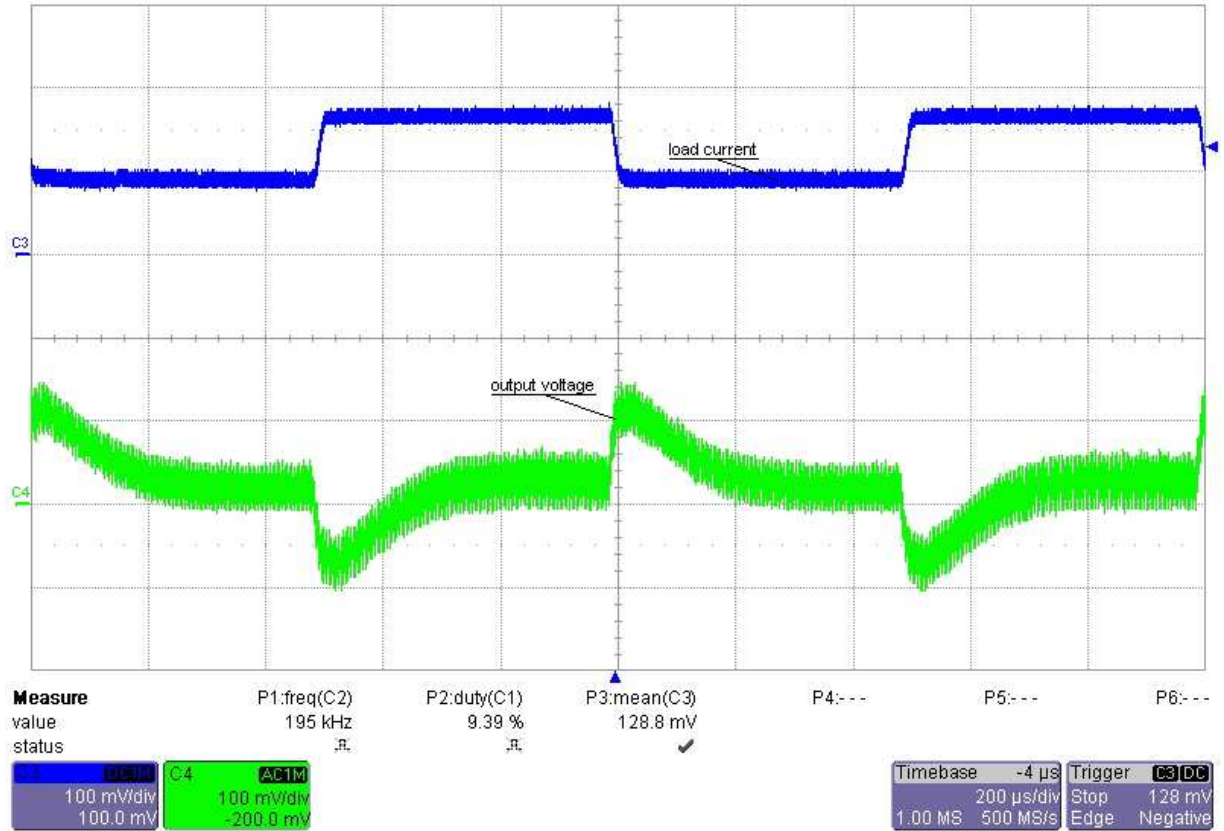
Channel C3 (100mV -> 1A)



Input voltage: 48V

Load current: 0.9 to 1.8A

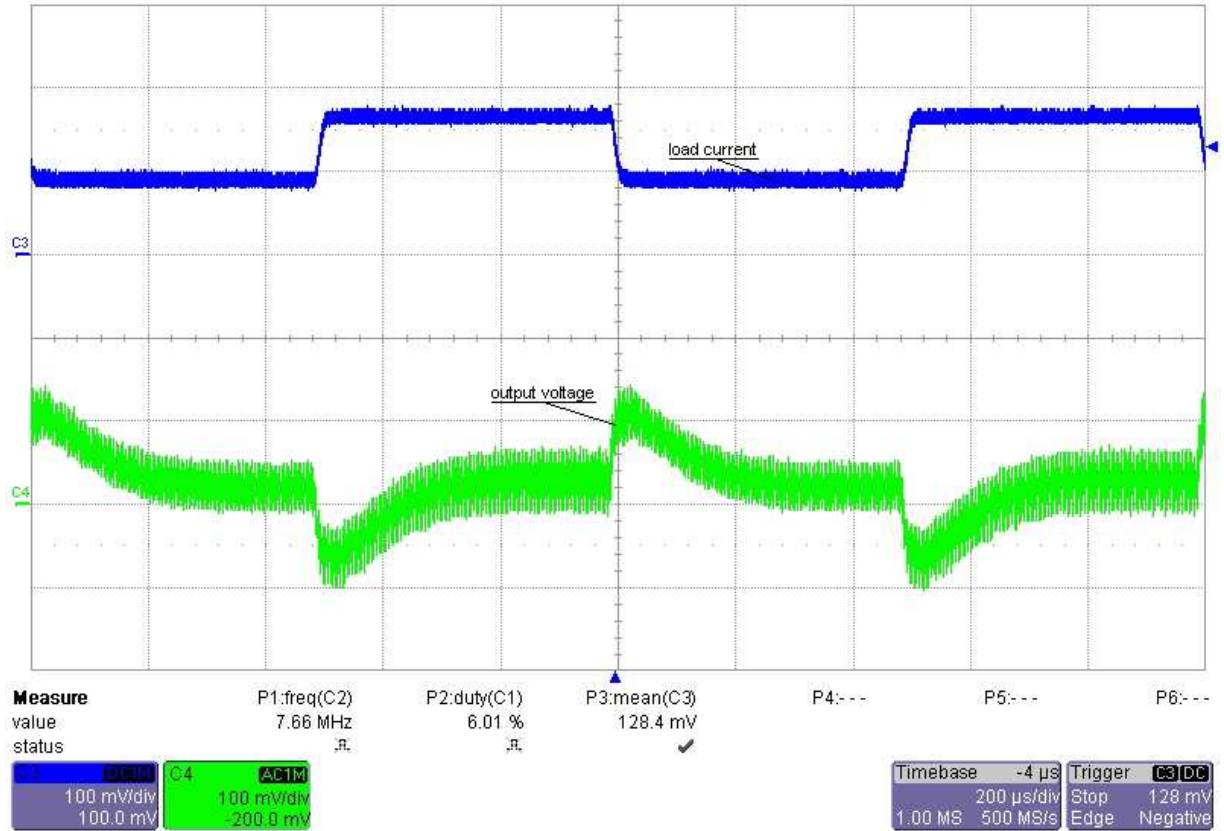
Channel C3 (100mV -> 1A)



Input voltage: 60V

Load current: 0.9 to 1.8A

Channel C3 (100mV -> 1A)

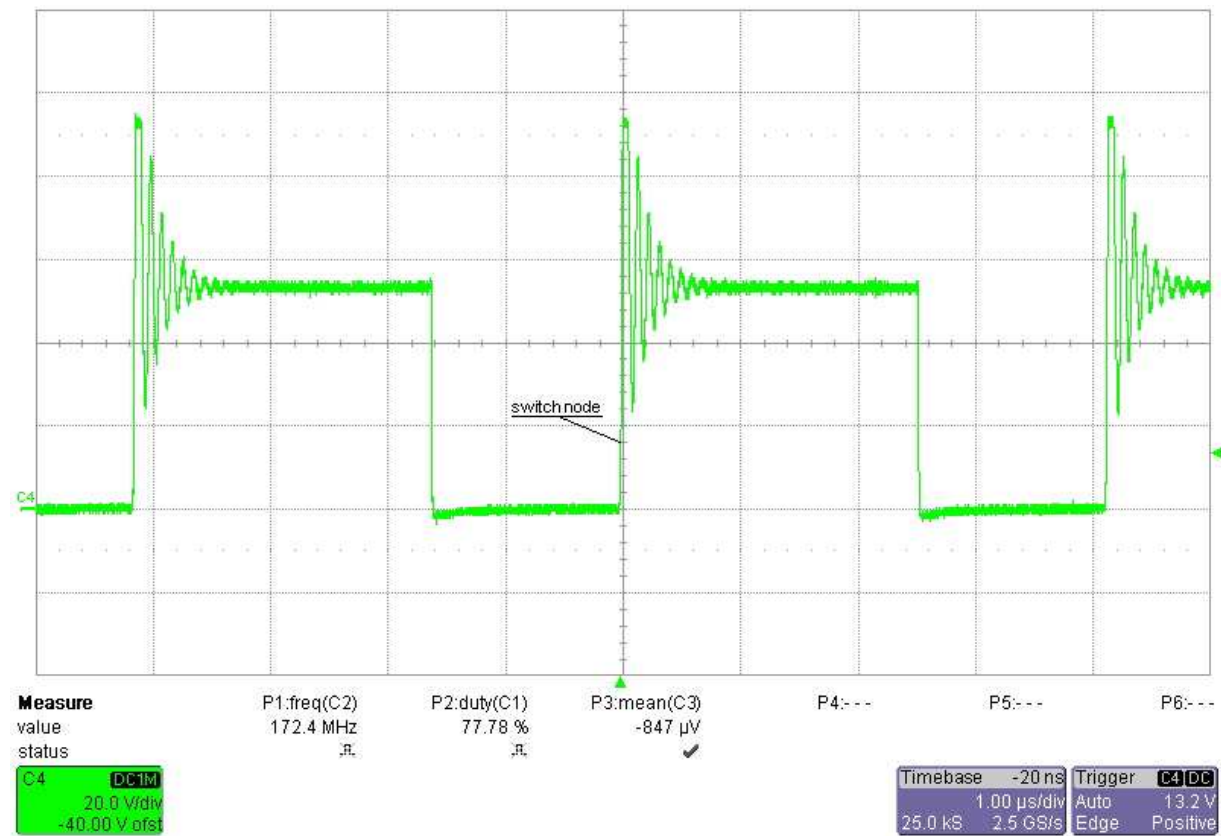


6 Switch-node

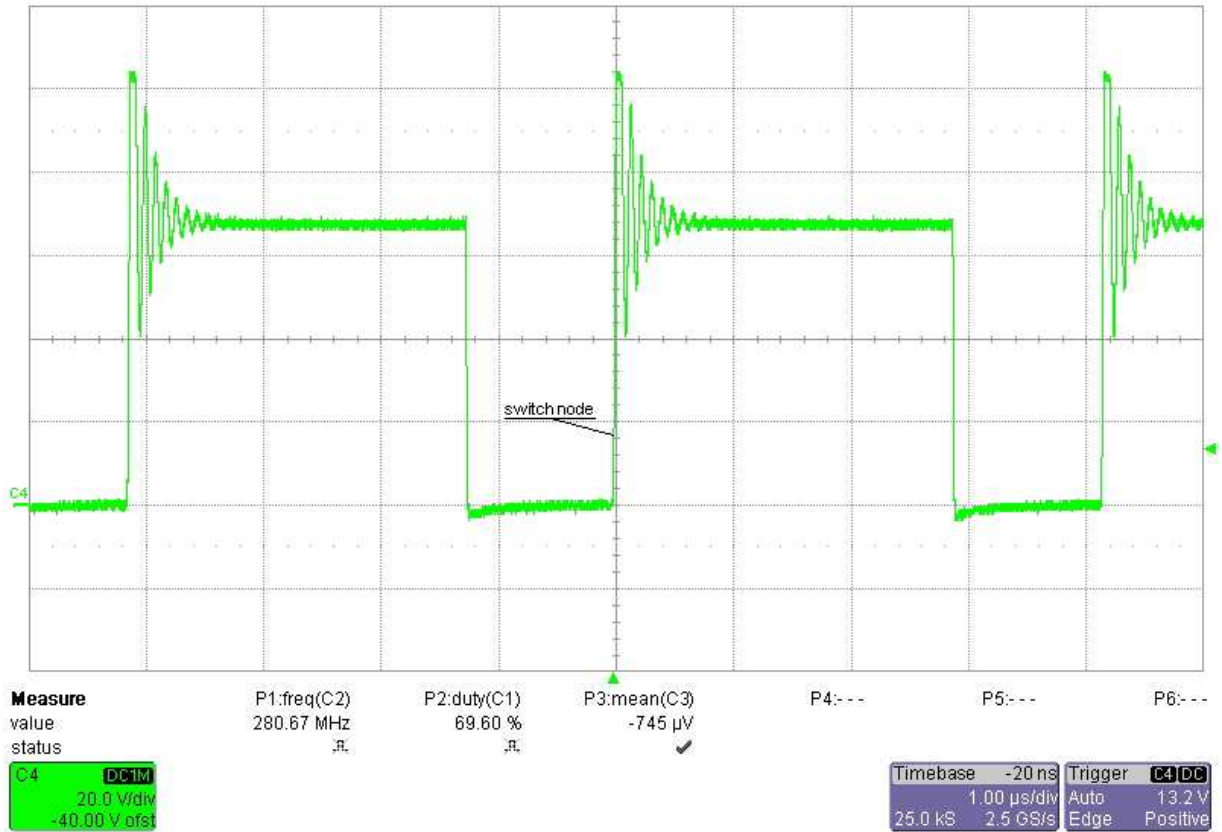
The images below show the switch-node waveform:

Input voltage: 34V

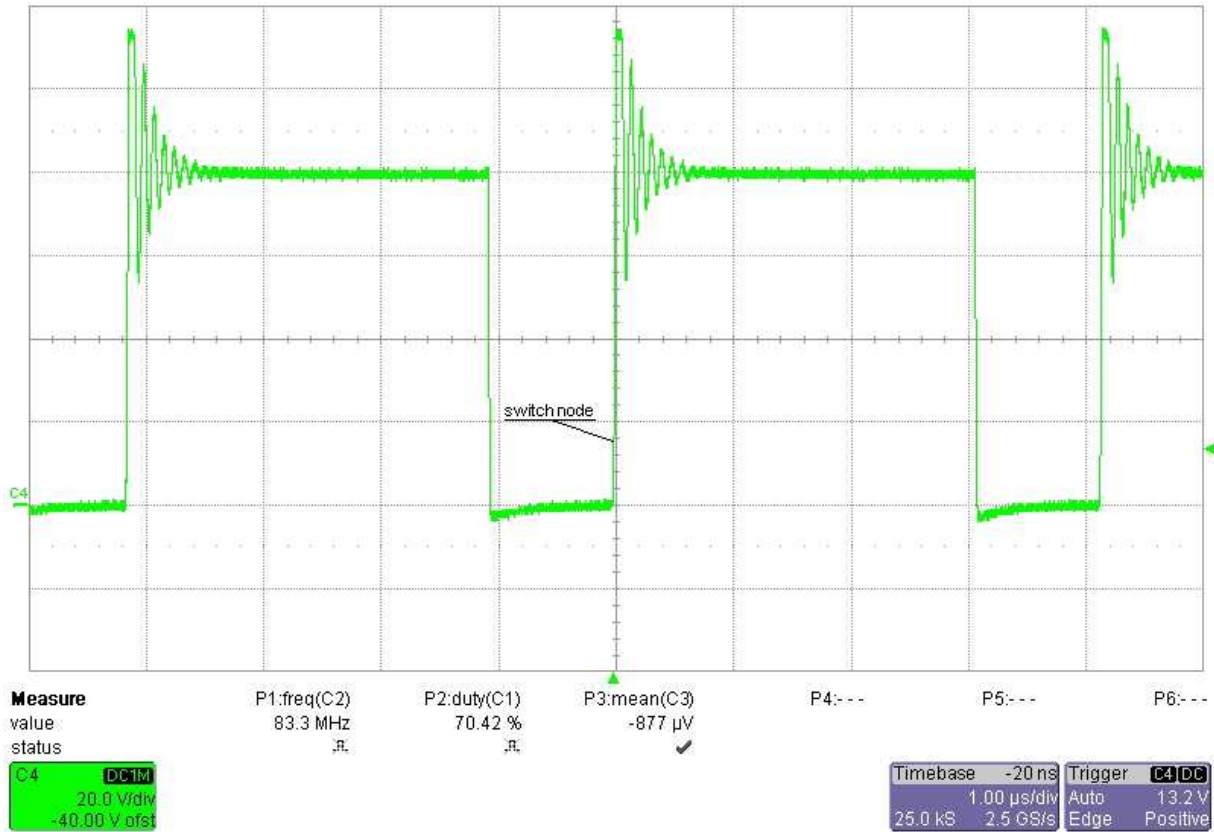
Load current: 1.8A



Input voltage: 48V
Load current: 1.8A

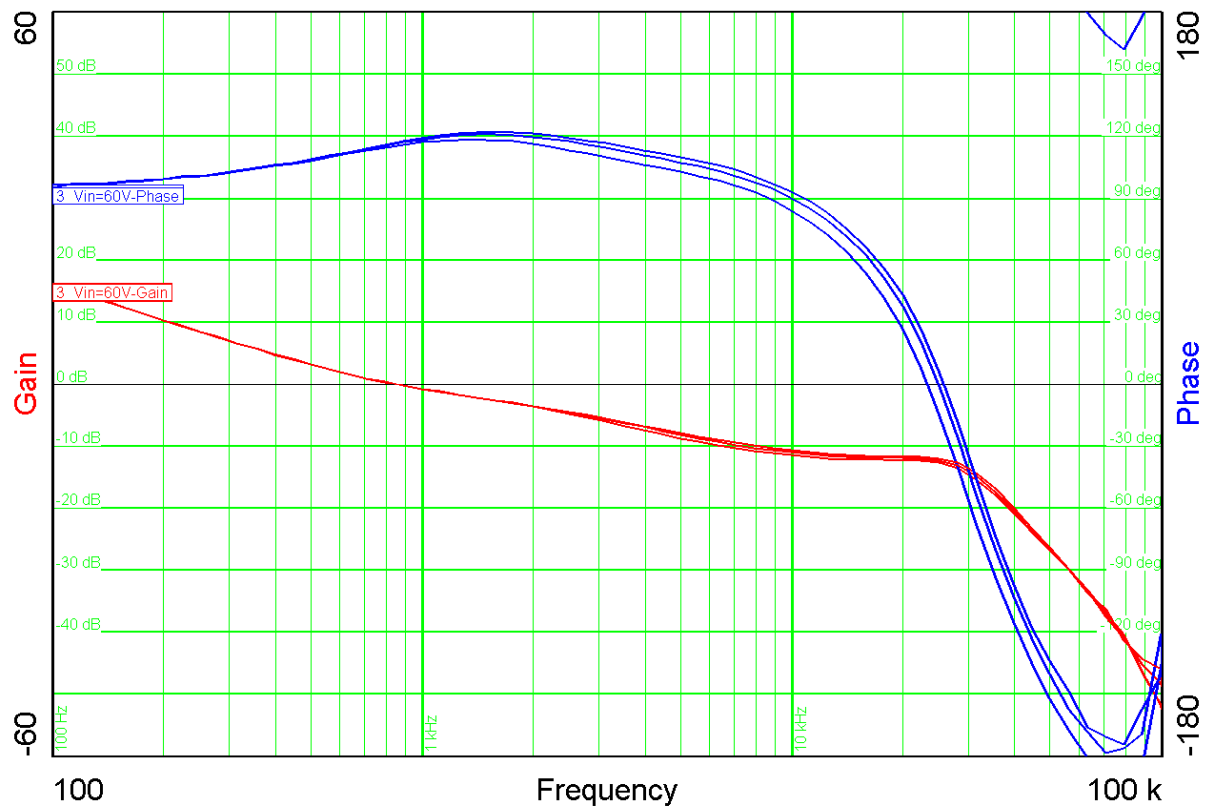


Input voltage: 60V
Load current: 1.8A



7 Loop Response

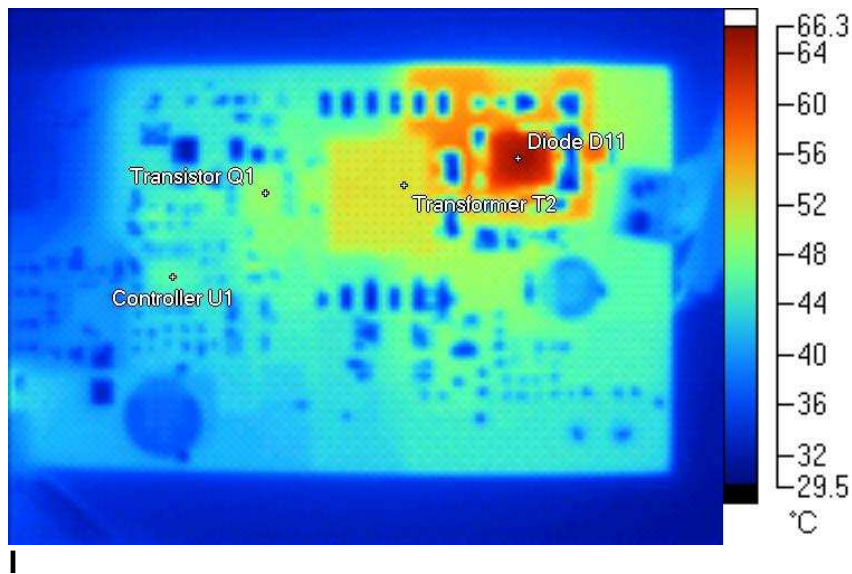
The image below shows the loop response of the converter measured with 34V, 48V and 60V at the input and full load (1.8A).



Phase margin was 115.6 deg. and crossover frequency 0.86kHz.

8 Thermal Analysis

The images below show the infrared images taken from the FlexCam after 15min at full load. Input voltage was 34Vdc, fully loaded (1.8A), and ambient temperature was 25C.



Main Image Markers

Name	Temperature
Diode D11	65.3°C
Transformer T2	52.3°C
Controller U1	46.1°C
Transistor Q1	49.0°C

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